JUNIPER NETWORKS

Solution Brief

Session Border Control Solutions

Overview

Situation

Service providers and enterprises can lower costs and extend their reach to more customers by connecting their VoIP network with other VoIP networks. Today, most VoIP networks remain isolated due to security, address translation, and Quality of Service (QoS) issues and can therefore only reach a small segment of VoIP users. Each of these issues prevents interconnected VoIP networks from properly exchanging traffic, leading to poor or no voice communications. VoIP calls that cannot terminate on IP networks require the PSTN for call completion, which increases cost and lowers overall voice quality. These challenges must be resolved to ensure efficient, secure, end-to-end IP communications.

Solutions

To offer seamless network to network connectivity, VoIP network borders must be bridged in a secure, reliable, and efficient manner. Session Border Controllers (SBCs) provide an effective mechanism to accomplish this feat. The Juniper Networks VF series addresses critical VoIP network border issues including security, service assurance and QoS, address translations, and regulatory compliance. The range of SBC products comprising the VF series enable enterprises and service providers the flexibility to choose the best SBC for their network.

Customer Value

The Juniper Networks VF series is a family of highly scalable products with feature-rich software that addresses VoIP and real-time IP border control environments. Purpose built to enable high quality, real-time IP services, VF series SBCs have more than 150 worldwide customer deployments and are the leader in VPN/VLAN VoIP and hosted IP telephony for consumer, SOHO, and enterprises.
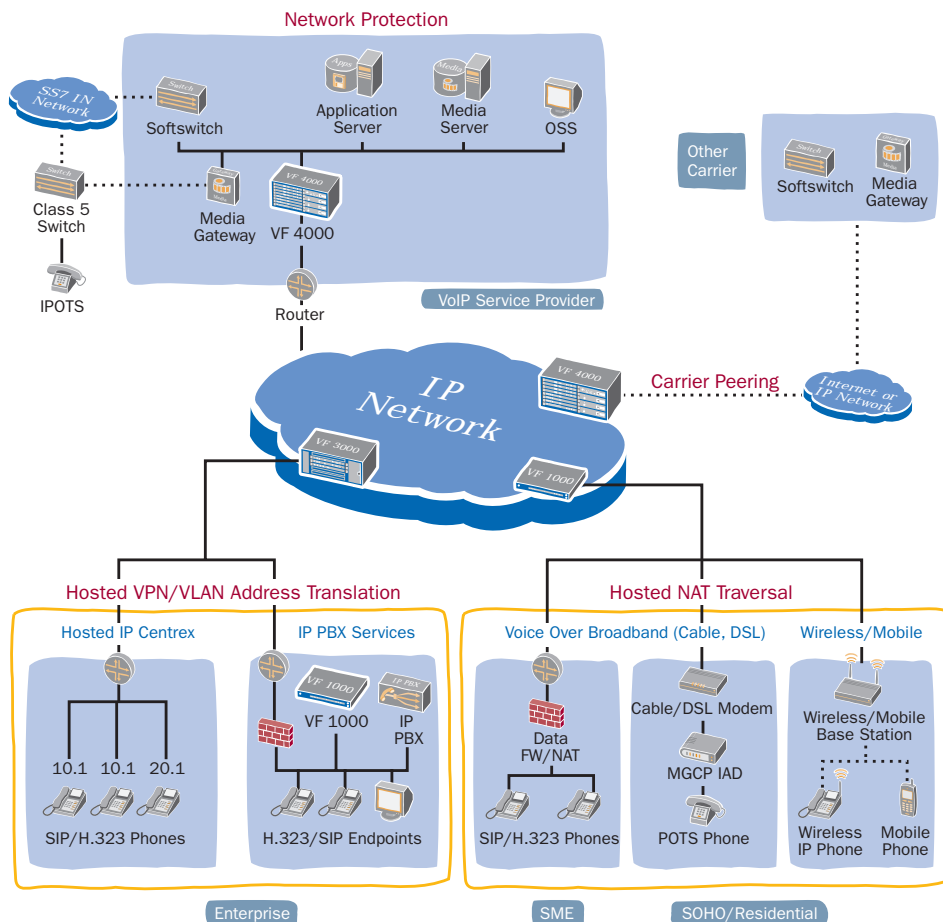
VF series Session Border Control Solutions

Figure 1. VF series address essential session border control solutions regardless of size or location in the network

Juniper Networks VF series Session Border Control Solutions

The Juniper Networks VF series product line addresses the VoIP network border control requirements faced by service providers and enterprises. The highly scalable SBC solutions range from high capacity, carrier grade to Customer Premises Equipment (CPE) VoIP networking equipment and support all common VoIP protocols (SIP, H.323, MGCP, and leading vendor extensions). The efficiently designed products are architected to fit into limited data center and central office spaces, but scale to accommodate access side and carrier peering services with hundreds of thousands of endpoints. The cross-platform VF Operating System (VFOS) uses native protocol stacks for a rapid response to customer configuration requirements. A leader in VoIP vendor interoperability, the VF series addresses all critical issues at the VoIP network borders:

Security – Topology hiding, Network AddressTranslation (NAT), media firewalling, denial of service protection, intrusion prevention

Service Assurance – Quality of service, optimized network performance, packet marking, bandwidth management, service level assurance monitoring, call admission control

Address translations – hosted NAT traversal, VPN/VLAN overlapping address translation, service provider peering, Data NAT

Lawful interception and regulatory compliance – E911, lawful interception, CALEA support

Essential Session Border Control Solutions

The VF series offers essential applications to enable real-time IP communications services:

- **Hosted NAT Traversal** – SOHO/residential/enterprise VoIP deployments requiring a NAT/border control solution but where adding CPE is not an option.

- **Hosted VPN/VLAN** – Service provider POP/NOC VoIP locations that utilize VPN access and need NAT to address private enterprise overlapping address schemes.

- **Network Protection** – Service provider POP/NOC VoIP locations that require security and protection for their own network elements (e.g., softswitches, gateways, feature servers, etc.).

- **Carrier Peering** – Service provider peering locations for interconnecting with other VoIP carriers and service providers.

- **Managed Enterprise IP Telephony** – CPE for enterprise VoIP locations and/or IP Centrex deployments where CPE is a requirement.

Conclusion

The scalable Juniper Networks VF series SBCs ensure service providers and enterprises a fast, expert delivery of IP communications services (voice, video, multimedia) and a cost-effective, competitive edge. VF series SBCs enable seamless VoIP networking by addressing security, service assurance (QoS), address translations, and regulatory compliance at the network edge. Purpose-built for VoIP networks, VF series SBCs are deep-packet processing devices that handle all common VoIP protocols (SIP, H.323, MGCP). They support both signaling and media streams to classify, measure, and manipulate each packet for management and reporting of all VoIP traffic. Based on a highly adaptive architecture and a range of application modules, the VF series offers proven customer solutions, including peering for service providers; hosted IP telephony for consumer, SOHO, and enterprise; VPN/VLAN VoIP; network protection for service provider infrastructure; and CPE solutions for managed enterprise IP telephony.

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